

REMARKS

Rejections under 35 USC §103(a)

Claims 1, 3, 4, 7, 9, 11, 12, 15 and 17-19 were rejected under 35 USC §103(a) as being unpatentable over Bruening et al. (U.S. Patent No. 5,120,443) in view of Japanese Patent No. 62-238337 (JP '337).

Responding to Applicants' previous response the Examiner alleged as follows:

It is unclear how the instant invention has eliminated an element. Claim 1 recites two options as alternatives (i.e. either a solution consisting of water and thiourea or a first solution consisting of water and thiourea and then a second aqueous solution consisting of water and hydrochloric acid successively). Only one of these alternatives must be taught in the prior art to reject the claim. The rejection is based on the second alternative (see p. 4 of the 01/09/2007 Office action). The contacting sequence in the instant invention is according to the second alternative is:

- a. Thiourea + water, and
- b. HCl + water.

The sequence disclosed in JP '337 is:

- a. Thiourea + HCl + water.

The same elements (thiourea, HCl and water) are disclosed in the instant invention as in JP '337, however the contacting sequence is changed. Examiner's position as stated on p. 4 of the 01/09/2007 Office action is the change in sequence is prima facie obvious and that applicants have not shown the criticality of the sequence.

Claim 1 has been amended on the elution step as follows:

a third step of eluting the PGM from the washing-treated resin to form an effluent, wherein said elution step comprises a step of bringing the washing-treated resin into contact with an aqueous solution consisting of water and thiourea, ~~or with a first aqueous solution consisting of water and thiourea and then a second aqueous solution consisting of water and hydrochloric acid successively.~~

Also, claims 17-19 have been cancelled.

According to Bruening et al, the aqueous recovery solutions shown in the Example 7 are 0.1 M HCl and 5 M NH_4Cl . Bruening et al also discloses recovery solution of 1M thiourea plus 0.02M TiCl_3 plus 0.1M HCl and another aqueous recovery solution of 4M $(\text{NH}_4)_2\text{SO}_4$ in Example 9. Also, it discloses 1M Thiourea plus 0.1M Hypophosphorous acid in Example 11, and 1M Thiourea plus 0.1M NaH_2PO_2 plus 0.1M HCl in Example 12. It should be noted that none of the examples uses aqueous solution consisting of water and thiourea as an eluting solution.

The abstract of JP62-238337 describes: "A liquid mixture composed of 0.1N HCl and 0.1M thiourea is used as the eluate and the noble metals adsorbed on the resin are dissolved by the eluate to recover the noble metal at the high yield." Thus, the eluate of JP62-238337 contains 0.1N HCl in addition to thiourea. Original Japanese specification of JP62-238337 does not disclose any other eluate without HCl. All eluting solutions shown in Bruening et al and JP62-238337 include at least one ingredient other than thiourea.

Claim 1 recites "wherein said elution step comprises a step of bringing the washing-treated resin into contact with **an aqueous solution consisting of water and thiourea.**" Thus, the aqueous solution of thiourea of the present invention does not contain HCl.

Thus, Bruening et al and JP62-238337 do not teach or suggest "wherein said elution step comprises a step of bringing the washing-treated resin into contact with an aqueous solution consisting of water and thiourea."

The description of the present specification shows that an aqueous solution consisting of water and thiourea functions as an excellent eluting solution (for example at pages 16-18). As

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MPEP 2144.04 II. B explains, use of “aqueous solution consisting of water and thiourea” as an eluting solution is not obvious from Bruening et al and JP62-238337.

For at least these reasons, claim 1 patentably distinguishes over Bruening et al and JP62-238337. Claims 3, 4, 7, 9, 11, 12 and 15, directly or indirectly depending from claim 1, also patentably distinguish over Bruening et al and JP62-238337 for at least the same reasons.

Claims 2, 6, 10 and 14 were rejected under 35 USC §103(a) as being unpatentable over Bruening et al. (U.S. Patent No. 5,120,443) in view of Japanese Patent No. 62-238337 as applied to claim 1 and further in view of EP 1,167,555.

Claims 2 and 6 depend from claim 1. EP '555 has been cited for allegedly disclosing matters relevant to ORP of 700 to 1100 mV as in claim 2, and EP '555 is also alleged to disclose that HCl solution has a chloride ion concentration of 4 mol/L or more as in claim 6. Such disclosures, however do not remedy the deficiencies of Bruening et al and JP62-238337 discussed above.

For at least these reasons, claims 2 and 6 patentably distinguish over Bruening et al JP62-238337 and EP'555. Claim 10, depending from claim 2, and claim 14 depending from claim 6 also patentably distinguish over Bruening et al, JP62-238337 and EP'555 for at least the same reasons.

Claims 8 and 16 were rejected under 35 USC §103(a) as being unpatentable over Bruening et al. (U.S. Patent No. 5,120,443) in view of Japanese Patent No. 62-238337 as applied to claim 1 and further in view of Ji et al. (U.S. Patent No. 6,660,059).

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Claim 8 depends from claim 1. Ji et al has been cited for allegedly disclosing that elution effluent is made alkaline and then heated to recover the PGM in the form of sulphide. Such disclosure, however, does not remedy the deficiencies of Bruening et al and JP62-238337 discussed above regarding claim 1.

For at least these reasons, claim 8 patentably distinguishes over Bruening et al, JP62-238337 and Ji et al. Claim 16, depending from claim 8, also patentably distinguishes over Bruening et al, JP62-238337 and Ji et al for at least the same reasons.

Claims 1, 3, 4, 7, 9, 11, 12, 15 and 17-19 were rejected under 35 USC §103(a) as being unpatentable over Japanese Patent No. 62-238337 in view of Fieberg et al. (U.S. Patent No. 4,105,443) and Bruening et al. (U.S. Patent No. 5,120,443)

Fieberg et al has been cited for allegedly disclosing a process for separation of ruthenium onto quaternary and tertiary amine resins and washing the loaded resin(s) to remove impurities.

However, such disclosure does not remedy the deficiencies of Bruening et al and JP62-238337 discussed above regarding rejection over Bruening et al and JP62-238337.

For at least these reasons, claim 1 patentably distinguishes over JP62-238337, Fieberg et al and Bruening et al. Claims 3, 4, 7, 9, 11, 12, and 15, directly or indirectly depending from claim 1, also patentably distinguish over JP62-238337, Fieberg et al and Bruening et al.

Claims 2, 6, 10 and 14 were rejected under 35 USC §103(a) as being unpatentable over Japanese Patent No. 62-238337 in view of Fieberg et al. (U.S. Patent No. 4,105,443)

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and Bruening et al. (U.S. Patent No. 5,120,443) as applied to claim 1, and further in view of EP 1,167,555 (EP'555).

Claims 2 and 6 depend from claim 1. EP '555 has been cited for allegedly disclosing matters relevant to ORP of 700 to 1100 mV as in claim 2, and EP '555 is also alleged to disclose that HCl solution has a chloride ion concentration of 4 mol/L or more as in claim 6. Such disclosures, however, do not remedy the deficiencies of JP62-238337, Fieberg et al and Bruening et al.

For at least these reasons, claims 2 and 6 patentably distinguish over JP62-238337, Fieberg et al and Bruening et al and EP'555. Claim 10, depending from claim 2, and claim 14 depending from claim 6 also patentably distinguish over JP62-238337, Fieberg et al, Bruening et al and EP'555 for at least the same reasons.

Claims 8 and 16 were rejected under 35 USC §103(a) as being unpatentable over Japanese Patent No. 62-238337 in view of Fieberg et al. (U.S. Patent No. 4,105,443) and Bruening et al. (U.S. Patent No. 5,120,443) as applied to claim 1, and further in view of Ji et al. (U.S. Patent No. 6,660,059).

Claim 8 depends from claim 1. Ji et al has been cited for allegedly disclosing that elution effluent is made alkaline and then heated to recover the PGM in the form of sulphide. Such disclosure, however, does not remedy the deficiencies of JP62-238337, Fieberg et al and Bruening et al discussed above regarding claim 1.

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For at least these reasons, claim 8 patentably distinguishes over JP62-238337, Fieberg et al, Bruening et al and Ji et al. Claim 16, depending from claim 8, also patentably distinguishes over JP62-238337, Fieberg et al, Bruening et al and Ji et al.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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